Chemistry Report for Case # P-17-0023

General

Submitter: [redacted]

Contact: [redacted] **Contact Telephone No.:** [redacted]

TS No.: 007898

Chemist: [redacted] **Contractor Support:** Y

PV Init (kg/yr): [redacted] **PV Max (kg/yr):** [redacted]

Binding Option: ☑ **Exposure-Based Review:** ☑

Manufacture: ☐ **Import:** ☑

CAS Number:1072-53-3

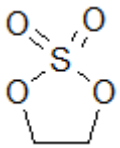
Chemical Name:1,3,2-Dioxathiolane, 2,2-dioxide

Trade Name:ESA, DTD

IES Order: None

Generic Name:not CBI

Chemical Structure



Physical Chemical Properties

Molecular Formula:C2 H4 O4 S

Molecular Weight:124.12

% < 500:

% < 1000:

MP:95.00 - 97.00

MP Estimate:

BP:	**BP Pressure:**
BP Estimate:209	
VP (Torr):	**VP Estimate (Torr):**0.043
Water Solubility (g/L):	**Water Soluble Estimate (g/L):**407
Log P:	**Log P Estimate:**-0.90
Physical State — Neat: Solid	**Physical State — Manuf:**NK: Import

Physical State — Processing: Solution: [redacted] LVE material in electrolyte formulation
Physical State — End Use: Solution: LVE material in electrolyte contained in lithium battery

Additional Chemical Info

Submitted
Properties: MP = 96 °C. The IR spectrum is included with the PMN submission. Literature Properties: MP = 99 °C (Physprop); 96-97 °C, 99 °C (STN Prop file). Estimated Properties: BP = 209 °C (EPI), 231 °C (ACD); VP = 0.043 torr (EPI), 0.097 torr (ACD); WS = 407 g/L (EPI), 170 g/L (ACD); log P = -0.90 (EPI), -1.04 (ACD).

Uses

Consumer Use? No

Use: Additive for use in lithium ion battery electrolyte formulations. [redacted]

Other Uses: [redacted]

Reaction Description

The
LVE material is imported and a detailed manufacturing process is not provided by the submitter. The following description is from the abstract for [redacted]

Pollution Prevention Analysis(P2 Analysis:)

P2
Claim: Manufacturing facility has an impermeable epoxied floor to prevent release to ground/groundwater from indoors. All exits to the outside have passive flood diking to prevent interior spills from being released outside the building. The external loading dock has isolation valves to segregate storm drains from the environment during the movement of material outdoors. Storage and mixing vessels have immediate secondary containment around the vessels. All of these measures help to reduce potential human and environmental exposure to the NCS, resulting in an overall reduction in risk to human health and the environment.

Analogs

[redacted]

Comments/Telephone Log

Artifact	Update/Upload Time
P-17-0023.mol	10/28/2016 14:31